

FIG. 1
PRIOR ART



魚器作成の図（扶母市立動物館）
（早北宗平飼育場による当時の施設図）

FIG. 2
PRIOR ART

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**REPORT
on the
SCIENTIFIC RESULTS
of the
EXPLORING VOYAGE
of
H.M.S. CHALLENGER
1873-76**

**NOTES ON METHODS FOR THE NARCOTIZATION, KILLING,
FIXATION, AND PRESERVATION OF MARINE ORGANISMS**

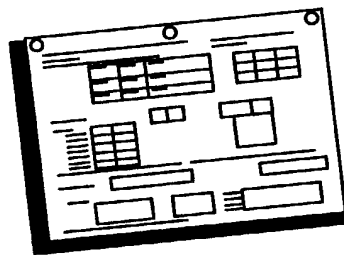
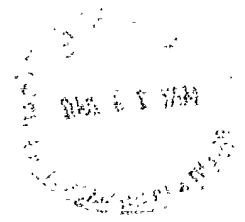
Compiled by Henry D. Russel
April 1963

Systematics-Ecology Program
Marine Biological Laboratory, Woods Hole, Mass.

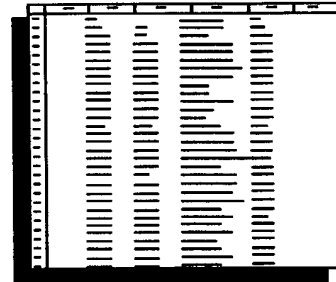
QL
62
R94
C1

FIG. 3
PRIOR ART

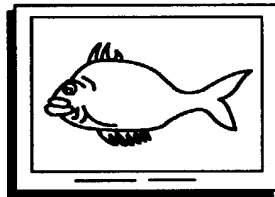
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SPECIMEN DATA



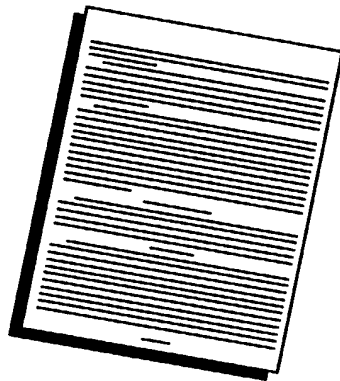
TABLES



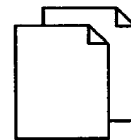
PHOTOS



BINARY OBJECTS



MANUSCRIPT



DOCUMENTS

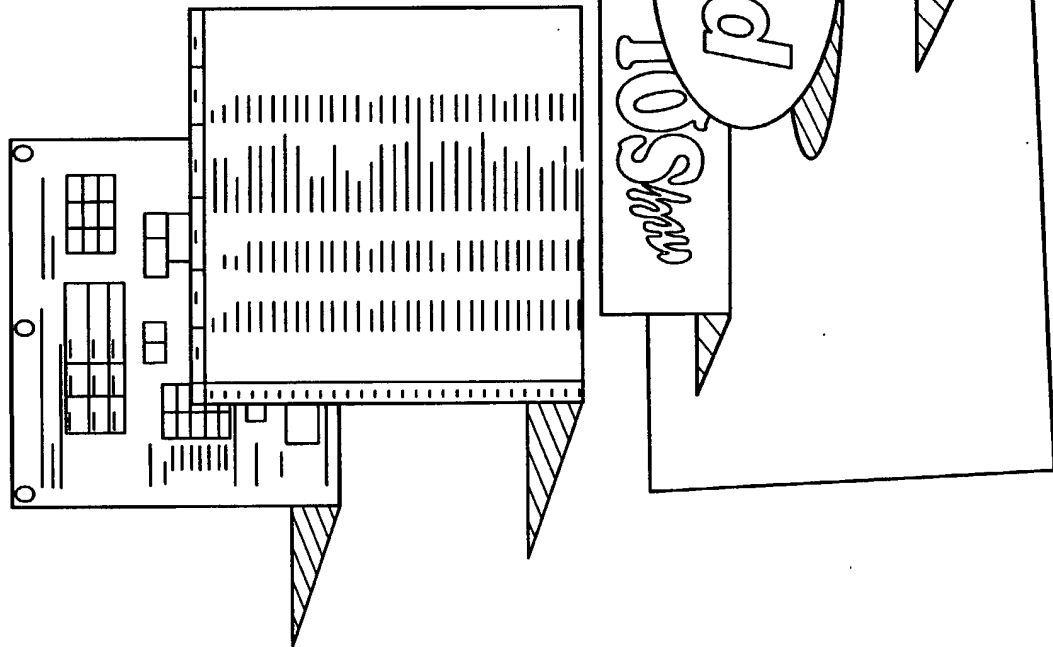
FIG. 4
PRIOR ART

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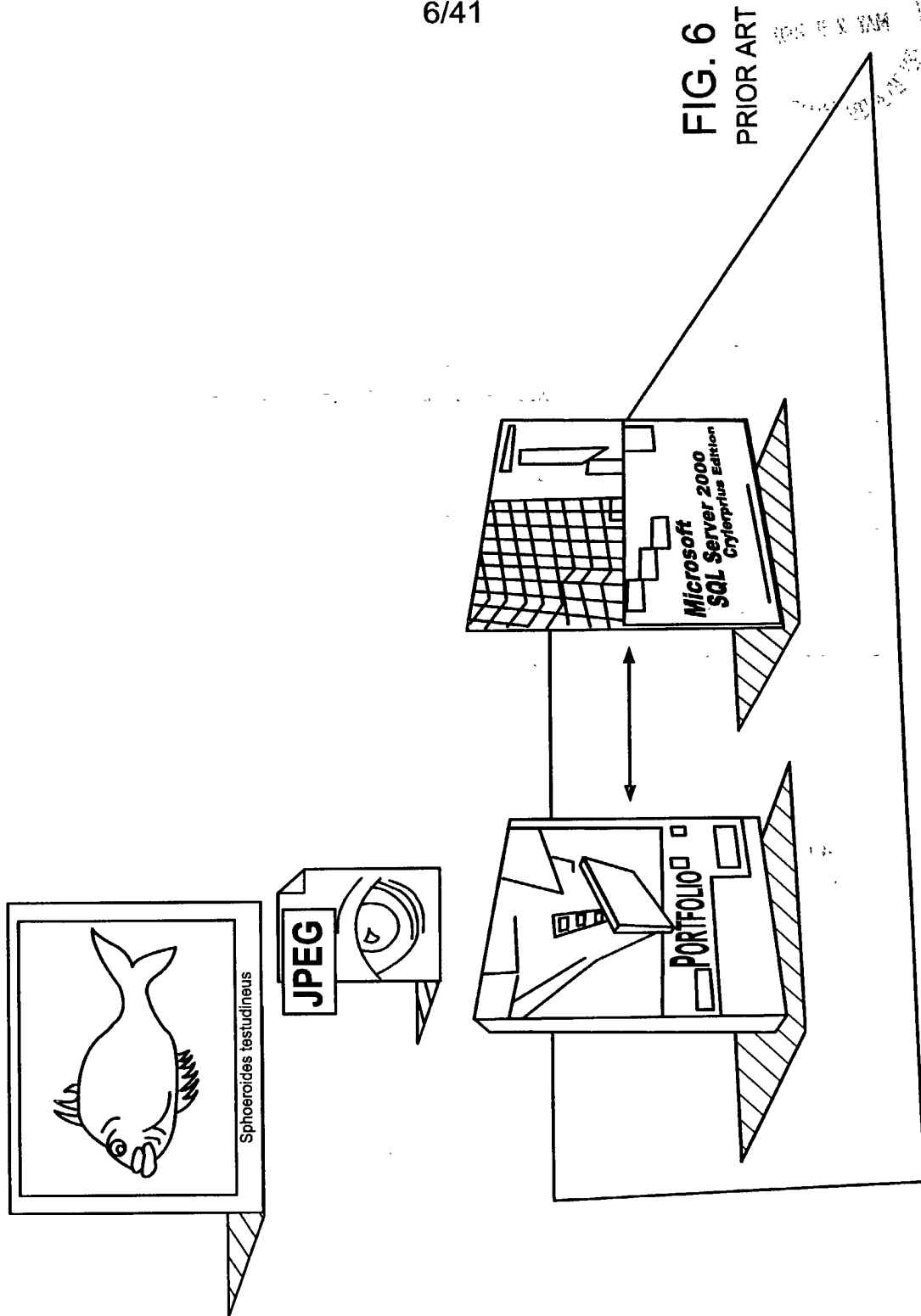
FIG. 5

PRIOR ART

FIG. 5



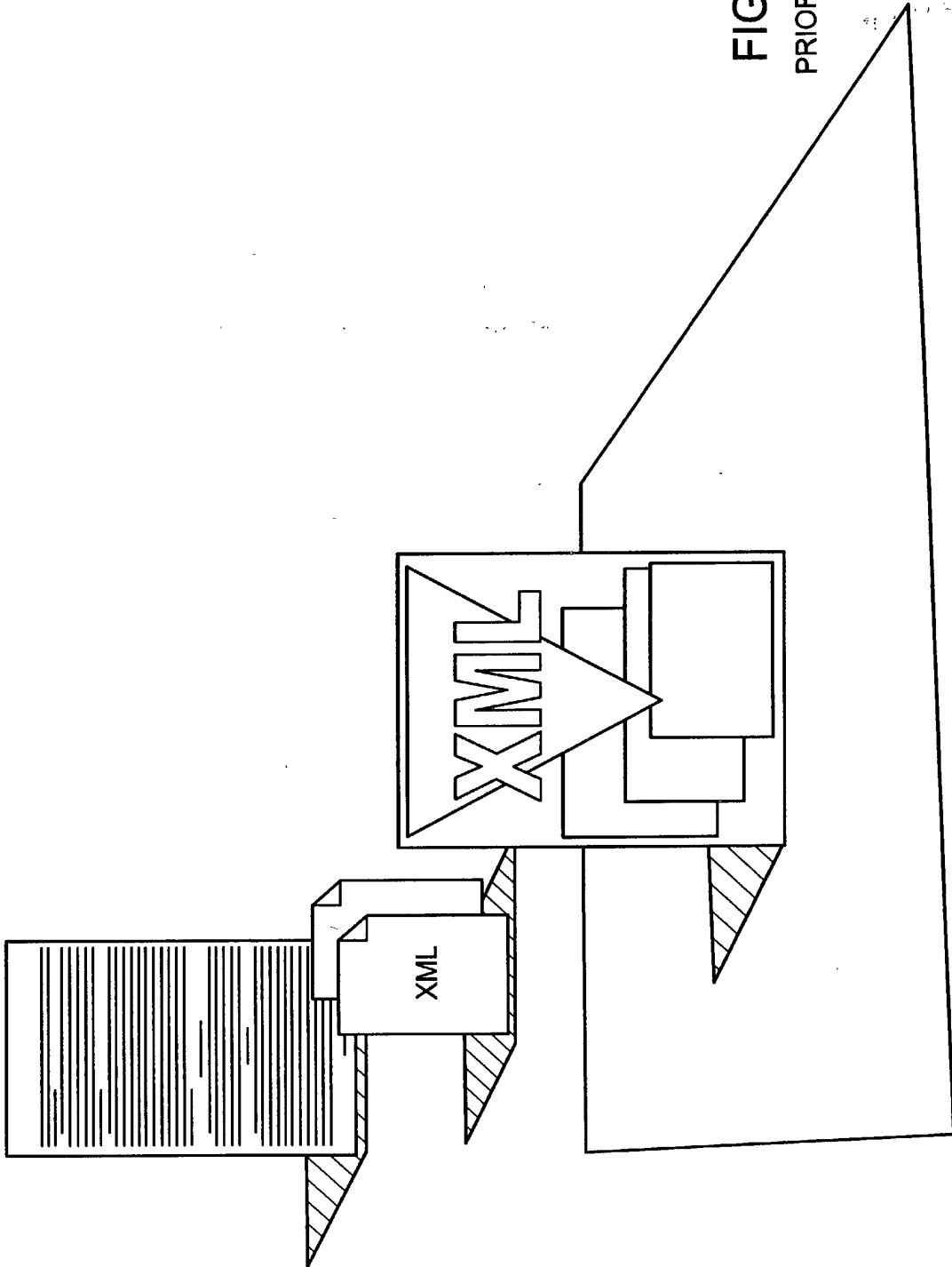
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FIG. 7

PRIOR ART



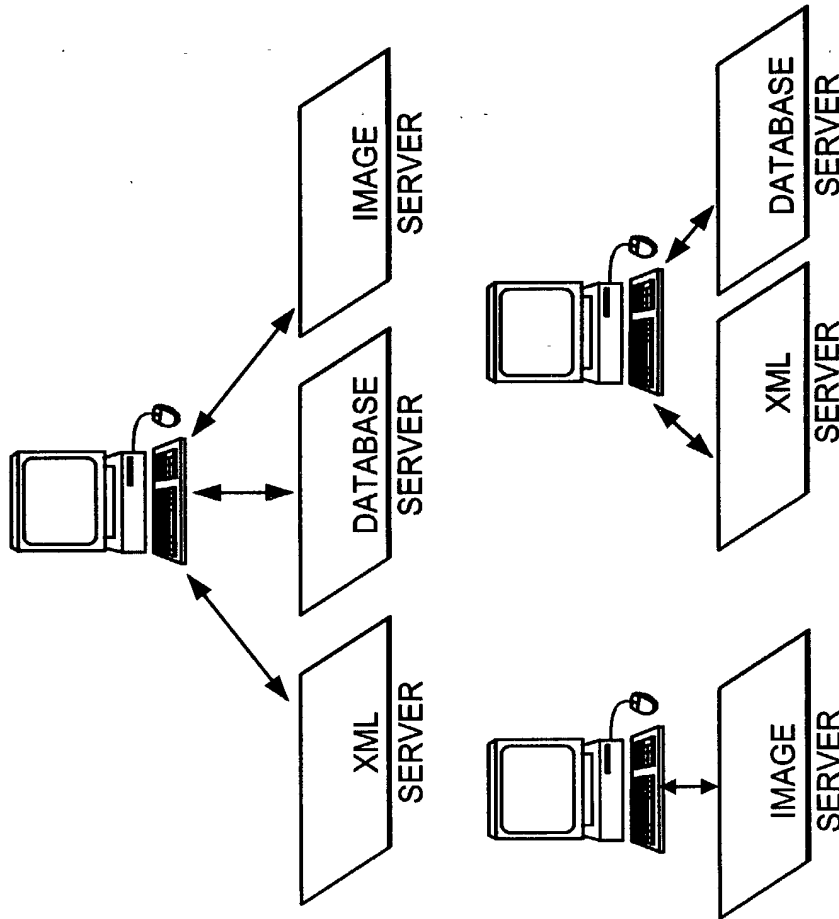
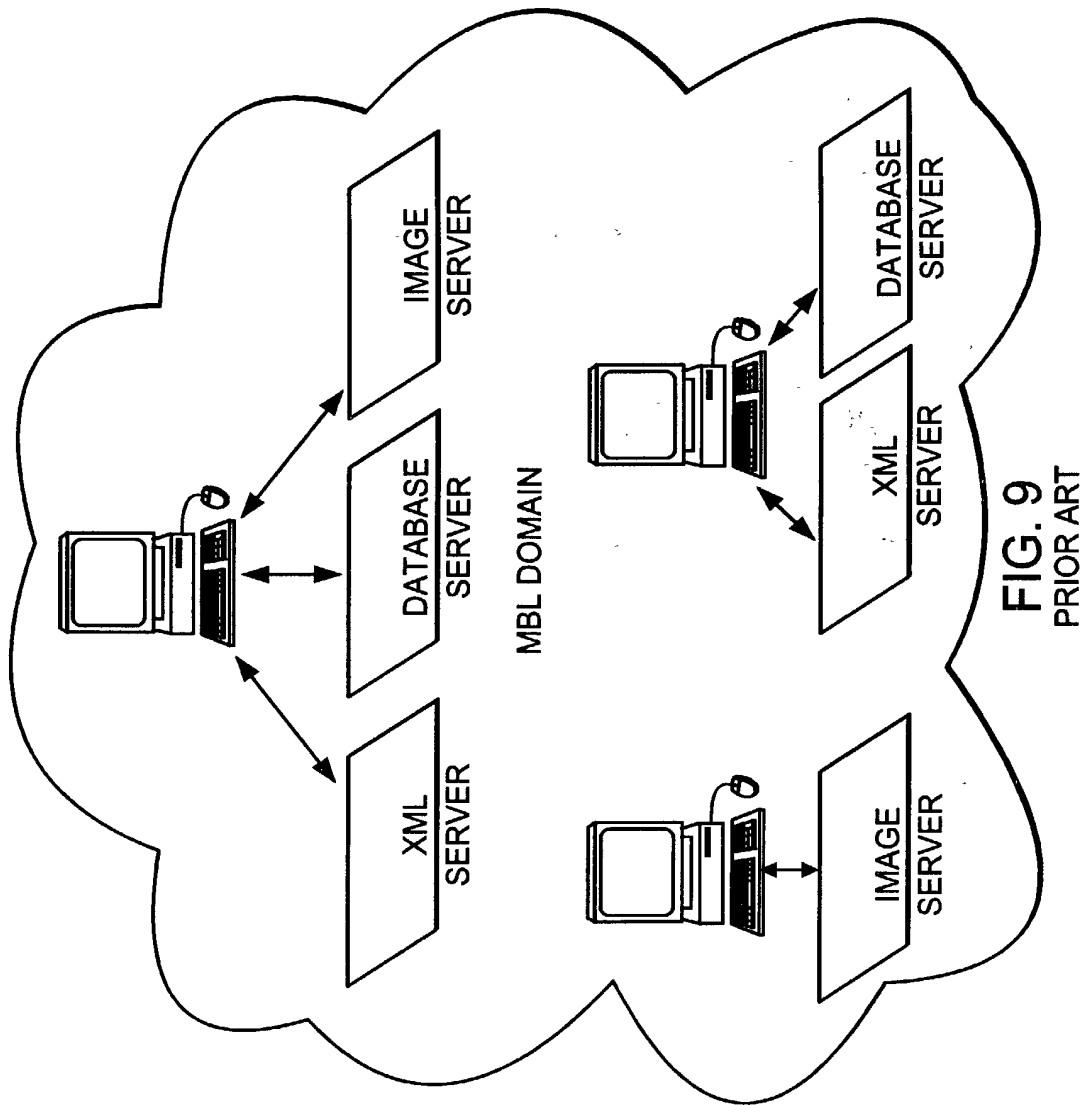
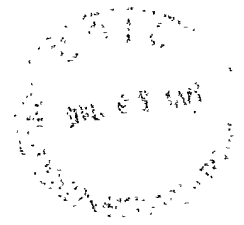


FIG. 8
PRIOR ART



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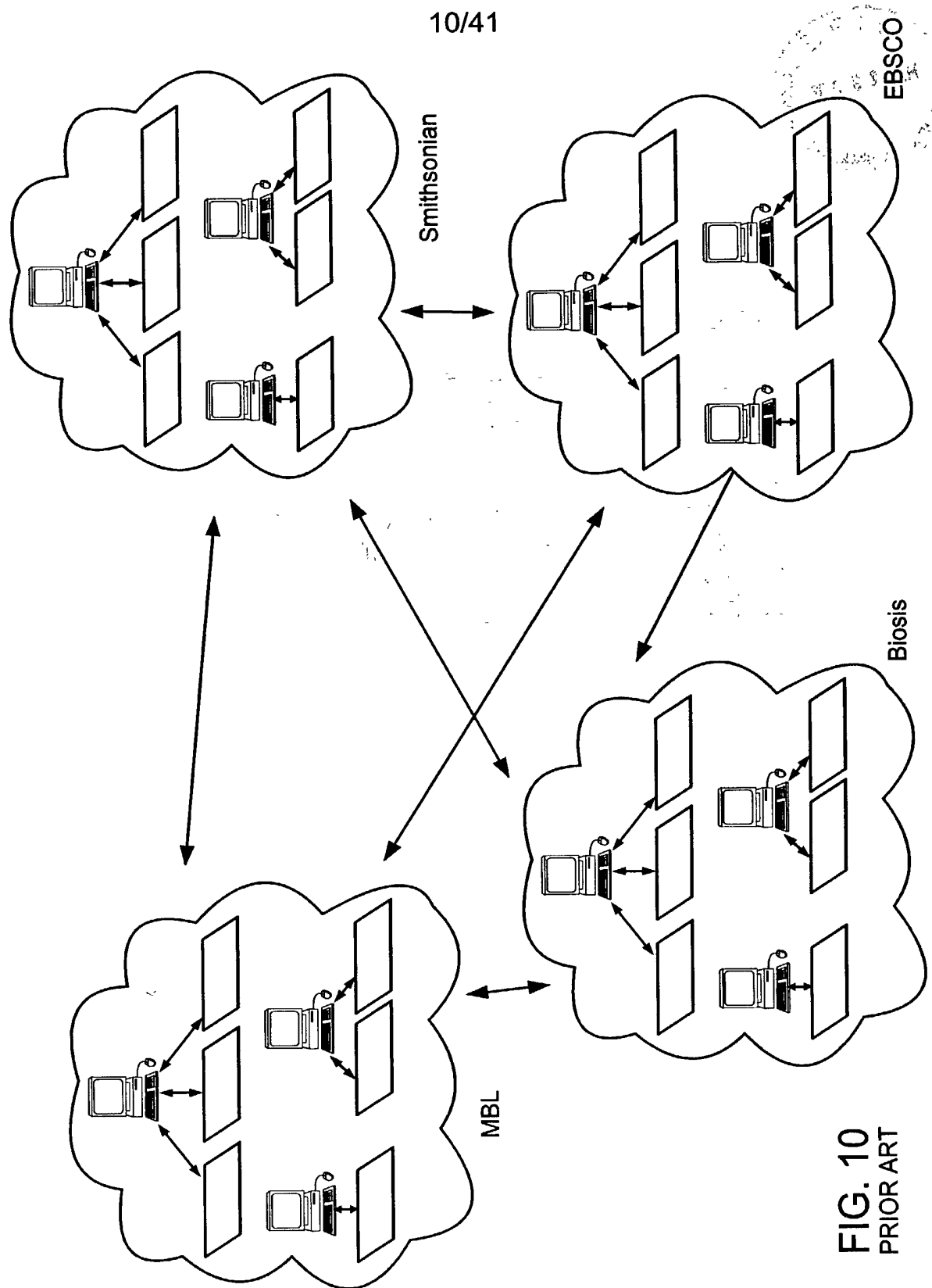


FIG. 10
PRIOR ART

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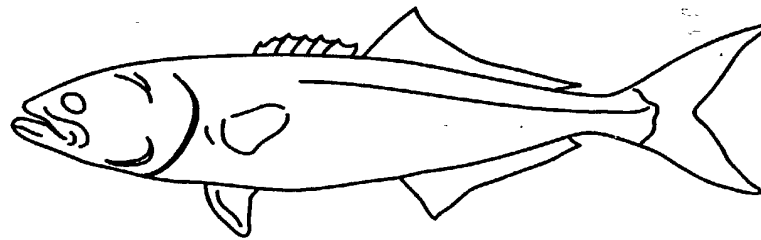
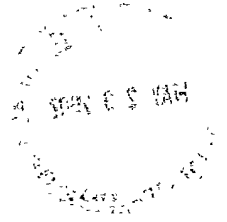
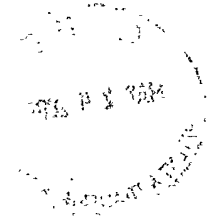


FIG. 11



Patterson
 . Organisms
 ... Eukaryote
 Opisthokonts
 Choanoflagellates And Animals
 Metazoa
 Chordata
 Vertebrata
 Gnathostomata
 Osteichthyes
 Actinopterygii
 Perciformes
 Pomatomidae
 Pomatomus
 Pomatomus saltator

Margulis
 Animalia
 .Chordata
 ..Craniata
 ... Gnathostomata
 Osteichthyes
 Actinopterygii
 Perciformes
 Pomatomidae
 Pomatomus
 Pomatomus saltator

FIG. 12

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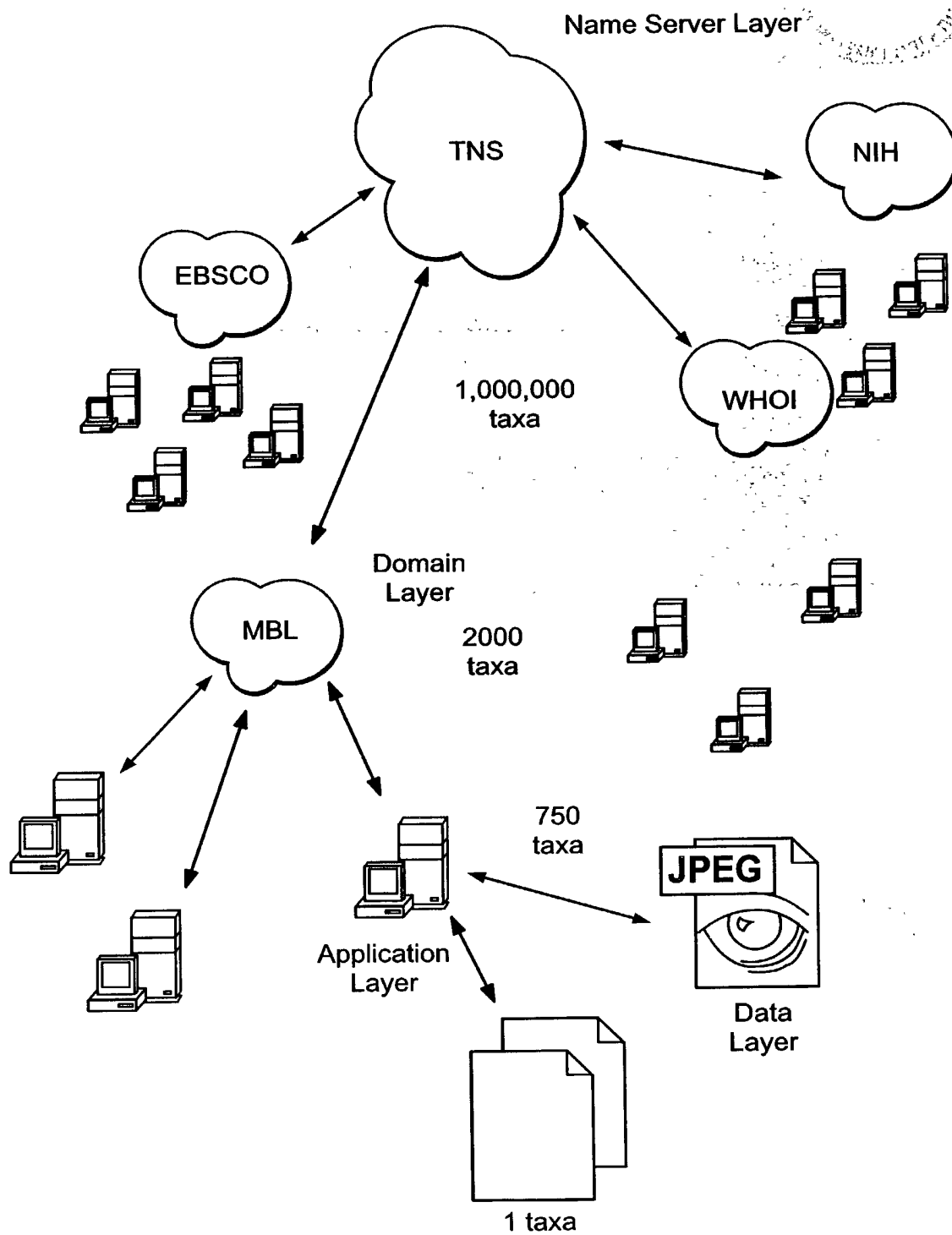


FIG. 13

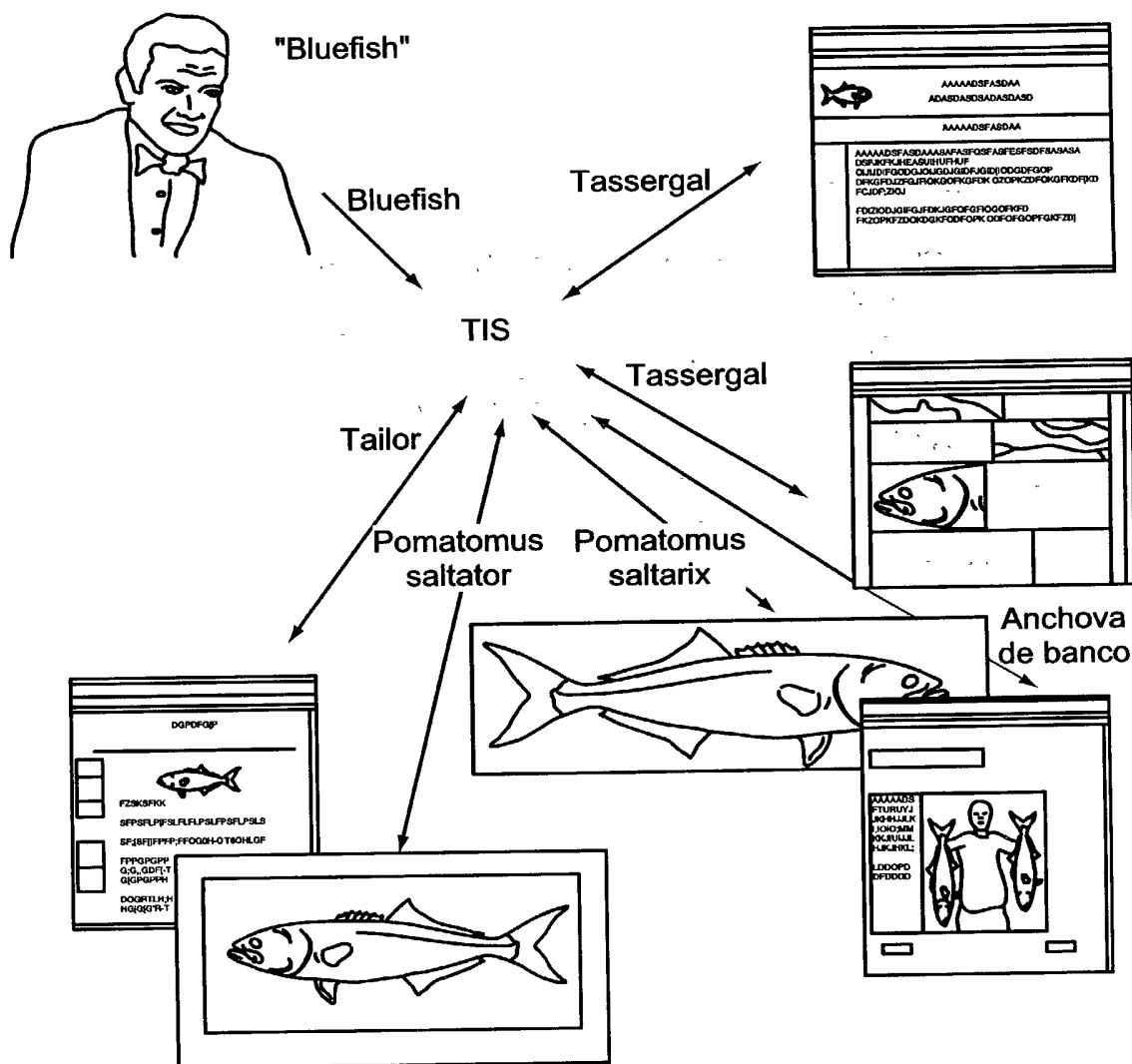
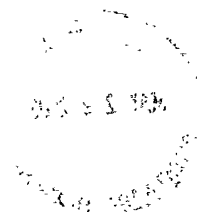


FIG. 14

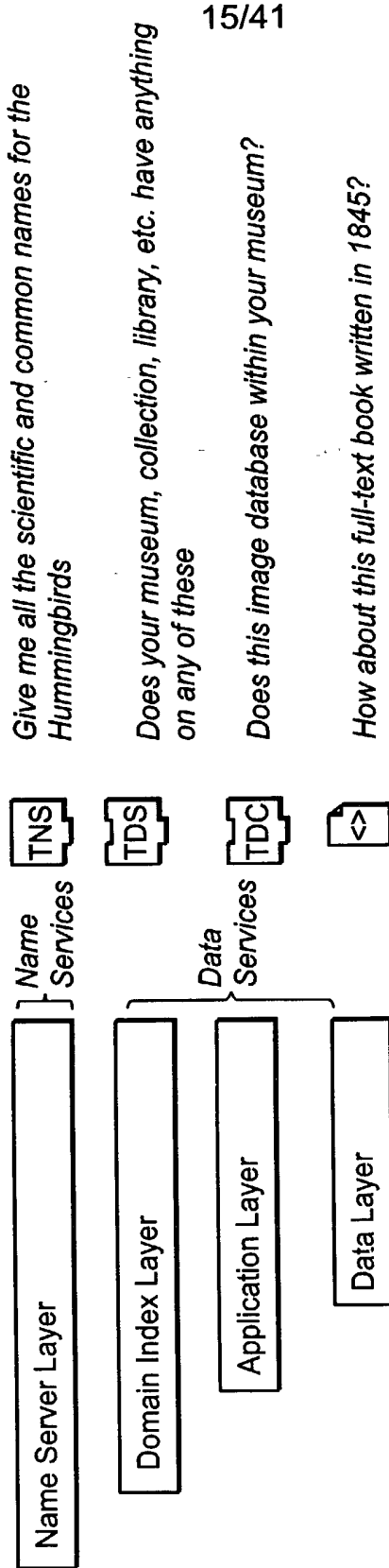
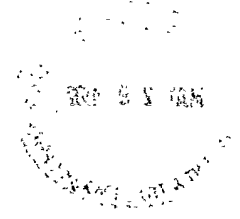


FIG. 15



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Scientific names for the bluefish, *Pomatomus saltator*

Cheilodipterus heptacanthus
 Cheilodipterus saltatrix
 Chromis epicurorum
 Gasterosteus saltatrix
 Gonenion serra
 Lopharis mediterraneus
 Perca lophar
 Pomatomus pedica
 Pomatomus saltator
 Pomatomus saltatrix
 Pomatomus skib
 Scomer sypterus
 Sparactodon nalnal
 Sypterus pallasii
 Temnodon conidens
 Temnodon saltator
 Temnodon tubulus

Other names

Bluefish (FAO/English)
 Tassergal (FAO/French)
 Anjova (FAO/Spanish)
 Sinikala (Finnish)
 Blaufisch (German)
 Gofári (Greek)
 Pesce serra (Italian)
 Amikiri (Japanese)
 Anchova (Portuguese)
 Plitica (Serbo-Croat)
 Strijelka skakusa (Serbo-Croat)
 Lüfer (Turkish)
 Blue-fish (English)
 Anchova (Portuguese)
 Bluefish (AFS/English)
 Shad (English)
 Elf (English)
 Tekwaya (Arabic)
 Tekwa (Arabic)
 Tasergal (Polish)
 Teleskopabborre (Swedish)
 Dyphavsabbor (Norwegian)
 Enchova (Portuguese)
 Tailor (English)
 Skipjack (English)
 Anchova de banco (Spanish)
 Elwe (Afrikaans)

FIG. 16

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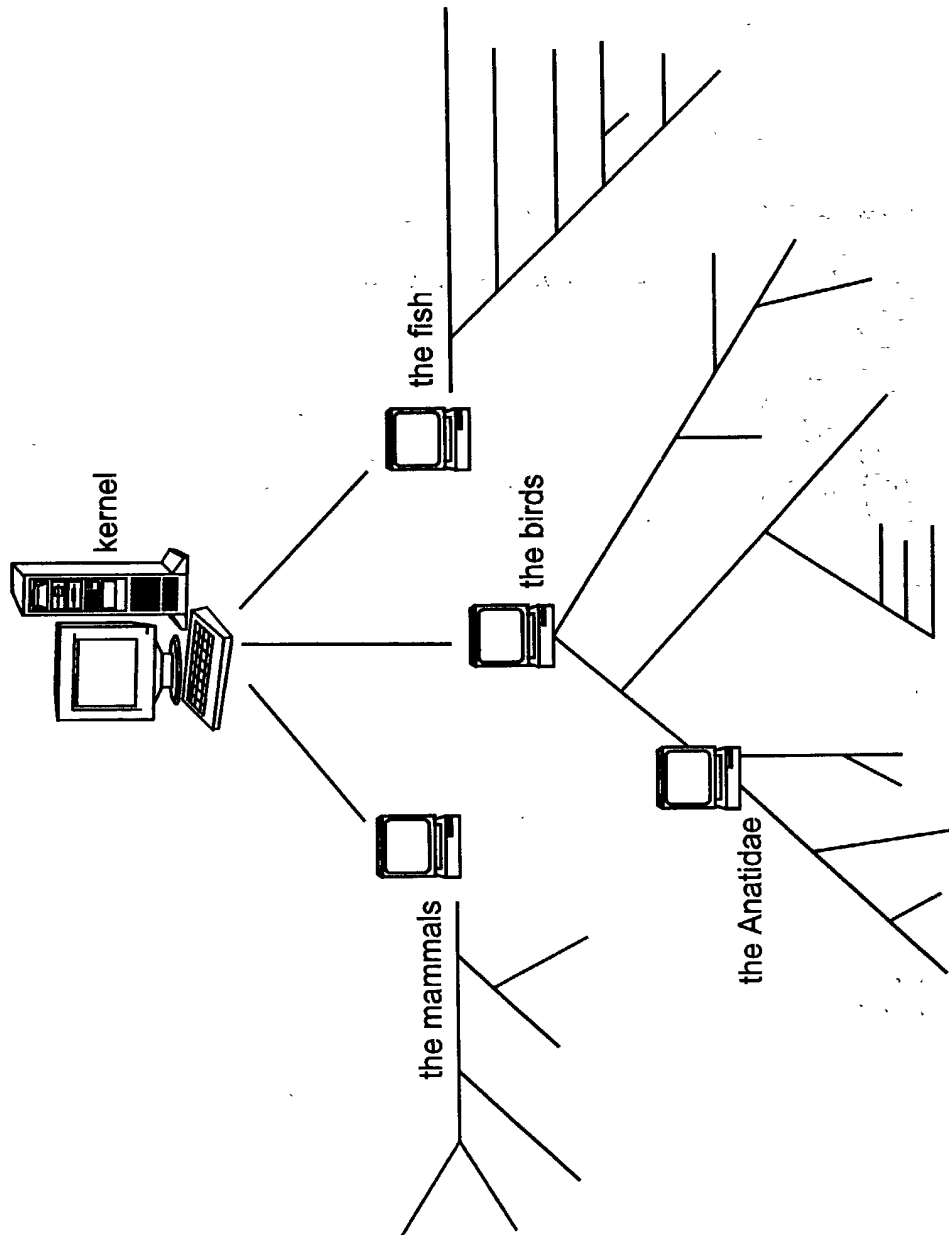
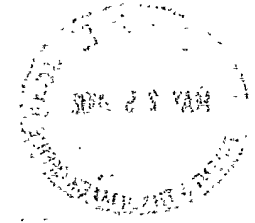


FIG. 17

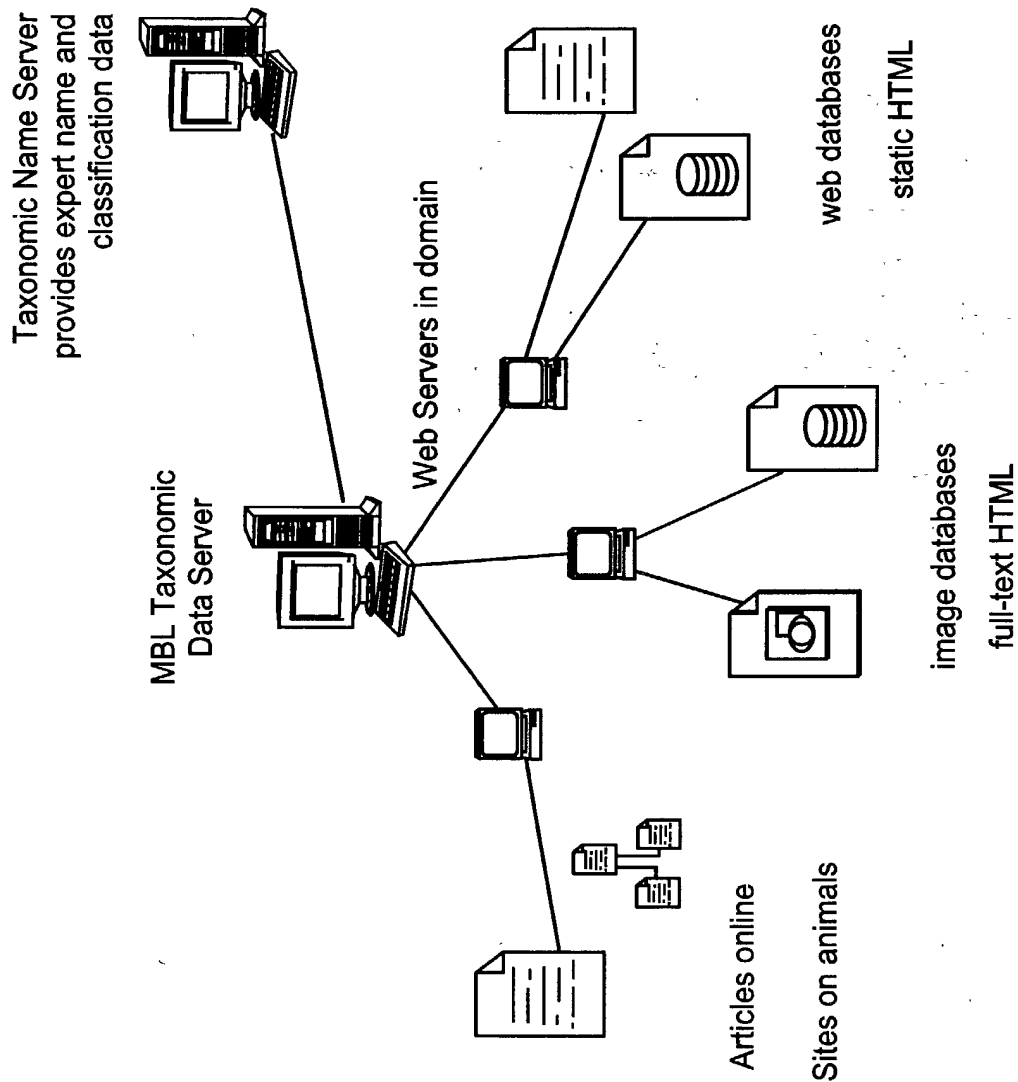
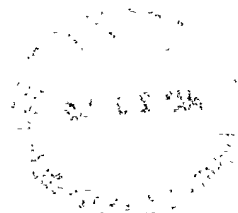


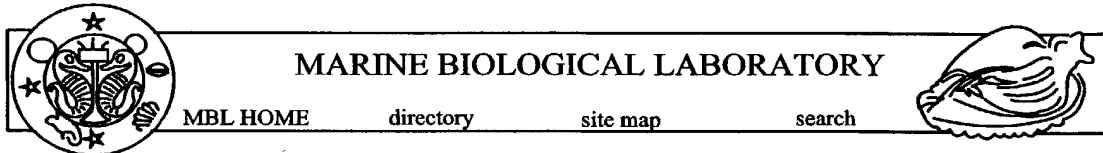
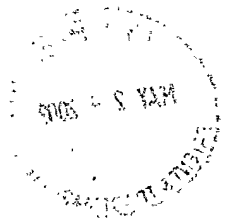
FIG. 18



Function name	What it does
<code>classifications();</code>	returns the canonical list of classifications from the name server
<code>me(\$myID,\$d,\$type,\$l)</code>	returns the name of entity myID according to the type attribute provided
<code>name_types(\$d);</code>	returns a \$d delimited array of name types such as "English,French,ICZN-Current, Synonym, Misspelling, etc.
<code>chroot(\$myID,\$classification)</code>	sets the name server root of the application to \$myID. Sets parent of myID to zero. Allows developers of taxa specific applications to only use relevant parts of the classification
<code>names(\$myID,\$d,\$order,\$l)</code>	returns an ary delimited by string, \$d
<code>children(\$myID,\$d,\$classification,\$type,\$order,\$l)</code>	returns an array of the children on \$myID according to the classification \$classification. Other options include the name type to return, sort order, etc.
<code>parent(\$myID,\$d,\$classification,\$type,\$order,\$l)</code>	Ancestry of \$myID with many output options
<code>list_my_children(\$myID)</code>	A recursive function for dumping tree information.
<code>get_name(\$myID,\$name_type,\$date,ref)</code>	Return a specific name for a taxa such as the French form or the currently accepted name or a junior synonym.
<code>classify(\$myID,\$classification,\$length)</code>	Returns an array of ancestry for a given classification to a given number of steps relative to the taxa. A length of 0 returns to the tree root.
<code>names(\$myID,\$fields)</code>	Returns an array of all names for a given taxonomic entity. Fields returned in the array can be specified.
<code>dump(\$myID,\$delimiter,\$fields,\$classification)</code>	Dumps from myID down in spreadsheet form
<code>pad(\$myID,\$s,\$class,\$root) -</code>	Delimiters used to pad the taxonomic level type. Ex (pad (AR201,"=-","1C",5) outputs "=-=-=-=-=-" because according to classification "1C" this entity (a genus) would be indented six places to correspond to the six levels from the starting point of level "5" (corresponding to "Phylum") from the root of classification 1C.

FIG. 19

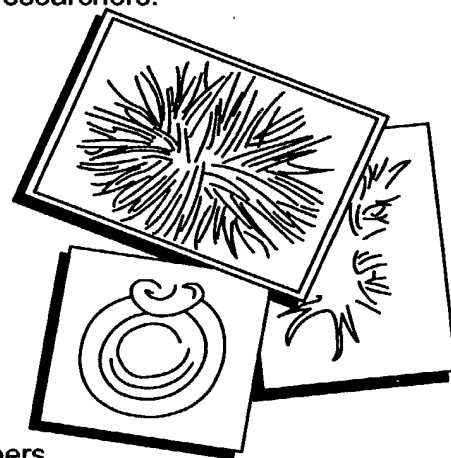
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Marine Animals at the MBL

- ▾ **Metazoa ->>**
- ▸ **Annelida** Segmented Worms
- ▸ **Arthropoda** Joint-legged animals
- ▸ **Bryozoa** Moss Animals
- ▸ **Chaetognatha** Arrow Worms
- ▸ **Chordata** Vertebrates and allies
- ▸ **Cnidaria** Coelenterates
- ▸ **Ctenophora** Comb Jellies
- ▸ **Echinodermata** Spiny-skinned Animals
- ▸ **Hemichordata** Acorn Worms
- ▸ **Mollusca** Mollusks
- ▸ **Nemertea** Ribbon Worms
- ▸ **Platyhelminthes** Flatworms
- ▸ **Porifera** Sponges
- ▸ **Sipuncula** Peanut Worms

This database represents approximately 200 species of marine organisms available in our Marine Resources Center and collected by the Aquatic Resources Division. Most of these organisms are available for purchase by qualified educational institutions and researchers.



Expand from Metazoa down. (560 taxa)

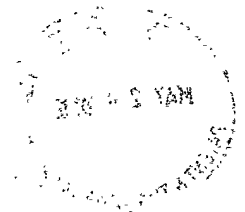
This program uses the Taxonomic Name Server for name authority information.

Server numbers

Click on grouping at left for a listing of species

FIG. 20





SUMMARY OF RESULTS

- Cythere crispata*, Brady. Obtained also at Station 187 and Port Jackson.
 " *cymba*, Brady. Obtained also at Station 233B, 15 fathoms. Recorded from Hong Kong.
 " *goujoni*, Brady. Obtained also at Station 187 and Port Jackson.
 " *darwini*, Brady. Obtained also at Station 233B, 15 fathoms. Recorded from Java
 " *cribriformis*, Brady. Obtained at no other locality by the Challenger.
Loxoconcha sinensis, Brady. Obtained also at Station 233B, 15 fathoms. Recorded from Hong Kong.
Bythocythere orientalis, Brady. Obtained also in Torres Strait.
Cytherella cingulata, Brady. Obtained also at Stations 187, 189, and Port Jackson

MACRUHA (Spence Bate, Zool. pt 52).

- Alpheus rupax*, Fabricius. One specimen (10 fathoms); obtained at no other locality by the Challenger.
Nauticarid unirecedens, n.g., n.sp. One specimen; obtained at no other locality.

ANOMURA (Henderson, Zool. pt. 69)

- Spiropagurus spiriger* (De Haan). One specimen in the shell of *Pleurotoma* (10 fathoms); for distribution see Torres Strait.
Porcellana serratifrons, Stimson. One specimen (10 fathoms); obtained also in Arafura Sea.
Rephidopus ciliatus, Stimpson. One specimen (10 fathoms); obtained at no other locality by the Challenger. Recorded from Hong Kong.

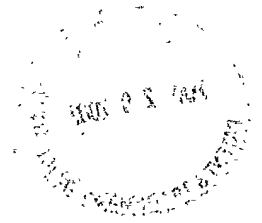
BRACHYCRA (Miers, Zool. pt. 49)

- Neptunas (Amphitrite) hastatoides* (Fabricius). Several Specimens (10 fathoms); obtained also at Stations 188, 233B, and Japan.
Goniosoma cruciferum (Fabricius). One specimen (7 fathoms); obtained at no other locality by the Challenger.
Arcunia septemspinosa (Fabricius). Three specimens (10 fathoms) obtained also at Station 233B, 16 fathoms, and Japan.
Leucosia craniolaris (Linué). Two specimens (10 fathoms); obtained also at Stations 188, 190, and Japan.
Dorippe facchino (Herbst). One specimen (10 fathoms); obtained at no other locality by the Challenger.

GASTEROPODA (Watson, Zool. pt. 42).

- Pleurotoma (Surcula) tuberculata*, Gray. (10 fathoms); obtained also in Arafura Sea.

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growth

June, whereas the contain only smaller
eggs after the early part of July, No
individual, however, is actually known to
have given birth to two broods in a single
summer.

The sand shark, *Carcharias Littoralis*, the
most common shark at Woods Hole during
the summer, so far as I know, has never
been taken during the breeding season
all the individuals being apparently imma

FIG. 23

The Bluefish, *Pomatomus saltator*

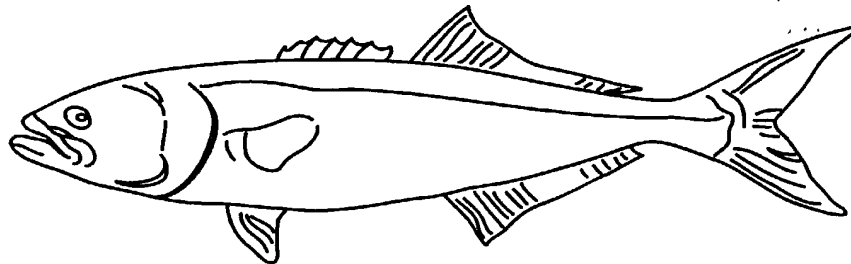


FIG. 24

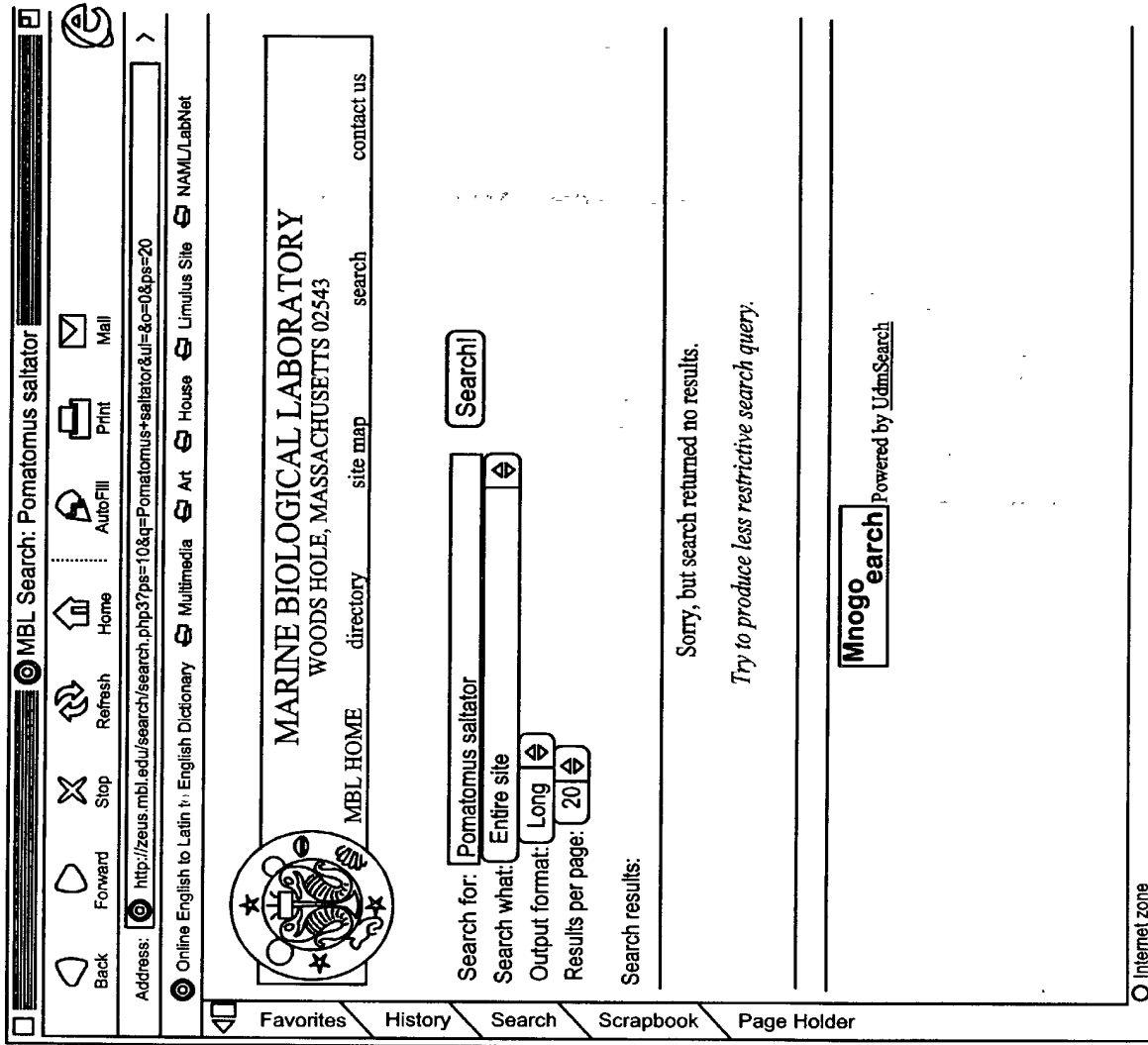
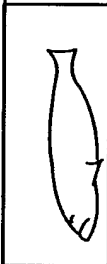


FIG. 25

Teleskopabborre (Sw)

[illegible]


.....SuperClass Pisces
.....Class Actinopterygii
.....Order Perciformes
.....Family Pomatomidae
.....Genus Pomatomus
.....Binomen Pomatomus saltator



Common Names of *Pomatomus saltator*

Synonyms of <i>Pomatomus saltator</i>		
Synonym	Author	Status
<i>Pomatomus saltator</i>	(Lumaeus, 1766)	misspelling
<i>Gasterosieus saltator</i>	(Lumaeus, 1766)	original combination
<i>Pomatomus saltator</i>	(Lumaeus, 1766)	new combination
<i>Teminadors saltator</i>	(Lumaeus, 1766)	new combination
<i>Pomatomus saltator</i>	(Lumaeus, 1766)	new combination
<i>Ckestadipierics saltator</i>	(Lumaeus, 1766)	new combination
<i>Ferca lophas</i>	Formold, 1775	junior synonym
<i>Ckestadipierics heptocaritkins</i>	Lacepede, 1801	junior synonym
<i>Pomatomus sirub</i>	Lacepede, 1802	junior synonym
<i>Lapharis mechierranens</i>	Rafresque, 1810	junior synonym
<i>Garrifison serna</i>	Rafresque, 1810	junior synonym
<i>Scaner dypteris</i>	Pallas, 1814	junior synonym
<i>Sypteris pallaris</i>	Eschwalds, 1831	junior synonym
<i>Chronimis spiererorum</i>	Grinnaw, 1864	junior synonym
<i>Teminadors coniderus</i>	Caeselnau, 1861	junior synonym
<i>Sparactodon nalinal</i>	Rochebrune, 1880	junior synonym
<i>Teminadors tubvulus</i>	Saville Kent, 1893	other

FIG. 27



MARINE BIOLOGICAL LABORATORY

WOODS HOLE, MASSACHUSETTS 02543

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1. Macrofauna description [2]
 Description of the Macrofauna in Plum Island Sound Macrofauna are abundant and diverse throughout the Plum Island Sound estuary. Twenty eight species of fish have been recorded in the brackish to marine areas and another 10 from the freshwater portion....
 • <http://ecosystems.mbl.edu/PIE/data/HTL/HTLDescription.htm> (text/html) Wed, 19 Jul 2000 15:11:39 GMT, 3406 bytes
2. No title [2]
 DATE STATION STATE X STATE Y LAT LON SPECIES TOTAL WEIGHT 23-Sep-1993 HTL-PR-21 247524.8 944832.3 42.75263608 70.91949172 Alosa aestivalis 1 1.2 20-Oct-1993 HYL-PR-21 247524.8 944832.3 42.75263608 70.91949172 Apeltes quadracus 1 0.6 23-Nov-1993 HTL-P...
 • <http://ecosystems.mbl.edu/PIE/data/HTL/HTL-PR-Survey.txt> (text/html) Wed, 19 Jul 2000 14:53:41 GMT, 174862 bytes
3. No title [2]
 STATION STATE X STATE Y LAT LON SAL SITE NAME SCI NAME 15N 13C 34S HTL-SO-3(Knob) 257402.95 942546.27 42.73139029 70.79906604 30 MID sand shrimp Crangon septemspinosa 10.5 -16.3 8.6 HTL-SO-5(Sub Headquarters) 256334.1 945265.44 42.75594527 70.81184907...
 • <http://ecosystems.mbl.edu/PIE/data/HTL/HTL-PR-Isotope.txt> (text/html) Wed, 19 Jul 2000 14:18:16 GMT, 8767 bytes
4. No title [2]
 Plum Island Ecosystem Long Term Ecological Research (PIE-LTER) LMER Intercomparison Stable Isotope Data Set Updated 2/14/97 Organic matter Real/measured Forward model stable isotope data Budgets stable...
 • <http://ecosystems.mbl.edu/PIE/data/STP/STP-VA-OMInterisotope.txt> (text/html) Wed, 19 Jul 2000 15:18:07 GMT, 20535 bytes

FIG. 28

MBL Name Server

412 species

14 phyla

1127 names

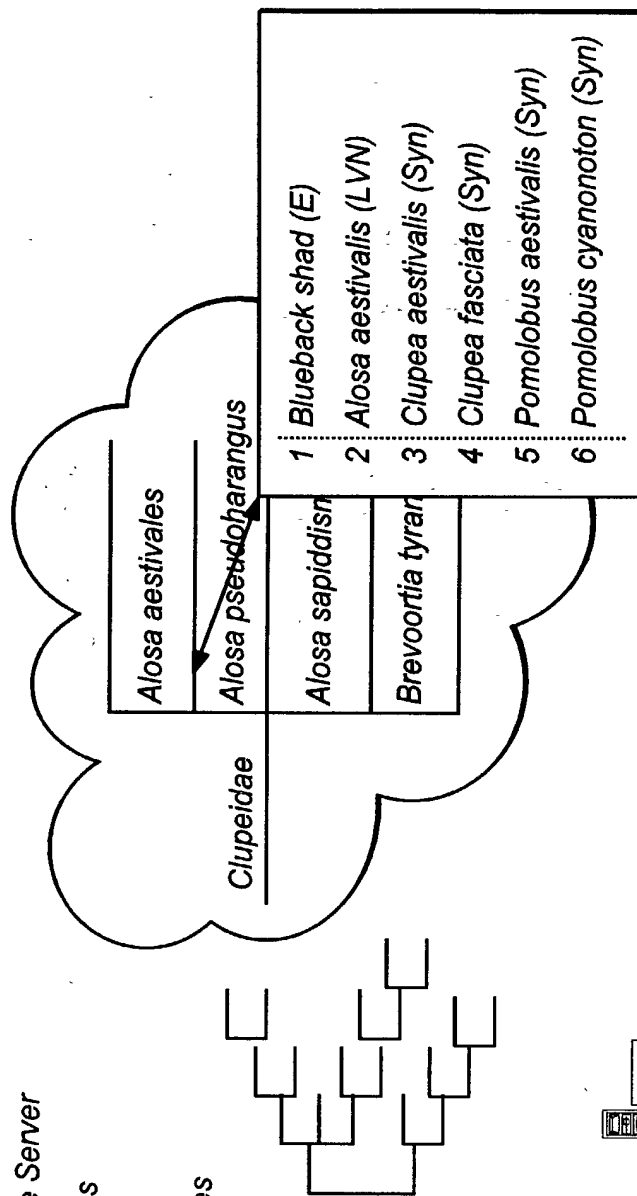


FIG. 29

Classification: ICLARM:FishBase

.....SuperClass **Pisces**
.....Class **Actinopterygii**
.....Order **Perciformes**
.....Family **Pomatomidae**
.....Genus **Pomatomus**
.....Binomen **Pomatomus saltator**

Names:

Bluefish (E)
Pomatomus saltator (L.VN)
Cheilodipterus heptacanthus (Syn)
Cheilodipterus saltatrix (Syn)
Cromis epicurorum (Syn)
Gasterosteus saltatrix (Syn)
...

Links: Pomatomus saltator

MBL

Database of Marine Organisms

The Flescher Slides Collection

The Biological Bulletin Citations Database

MRC Catalog of Specimens

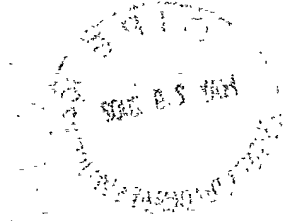
Compendium of Eggs and Embryoes

The Teaching Charts of Rudolph Leuckart

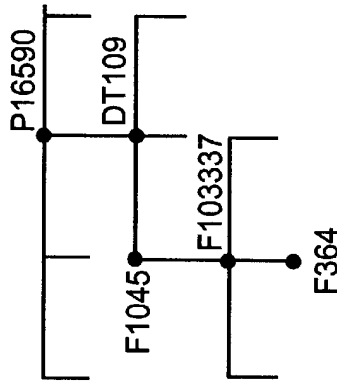
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FIG. 30

10007923 052902



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Classification: C109

myID	name	type
38631	Bluefish	E
59825	Pomatomus saltator	L
73467	Cheilodipterus heptacanthus	Syn
73482	Cheilodipterus saltatrix	Syn
73995	Chromis epicurorum	Syn
81129	Gasterosteus saltatrix	Syn
82464	Gonenion serra	Syn
87746	Lopharis mediterraneus	Syn
94245	Perca Lophar	Syn
96363	Pomatomus pedica	Syn
96364	Pomatomus saltatrix	Syn
96365	Pomatomus skib	Syn
100411		
101901		
103298		
103504		
103506		
103507		
106382		
106383		
106384		
39257		
61228		
77719		
77720		
78438		
41109		

myID	myparentID	Entity Description (use currently accepted latin name)
F7301	F103336	Pomadasys striatus
F7708	F103336	Pomadasys striatus
F17426	F103336	Pomadasys stridens
F27317	F103336	Pomadasys suillus
F27498	F103336	Pomadasys taeniatus
F51125	F103336	Pomadasys trifasciatus
F364	F103337	Pomadasys unimaculatus
F9187	F103338	Pomatomus saltator
F9188	F103338	Pomatomus saltator
F9189	F103338	Pomatoschistus bathi
F9190	F103338	Pomatoschistus canestrinii
F9191	F103338	Pomatoschistus kneri
F1344	F103338	Pomatoschistus lozanoi
F1345	F103338	Pomatoschistus marmoratus
F1346	F103338	Pomatoschistus microps
F1347	F103338	Pomatoschistus minutus
		Pomatoschistus norvegicus
		Pomatoschistus pictus

FIG. 31

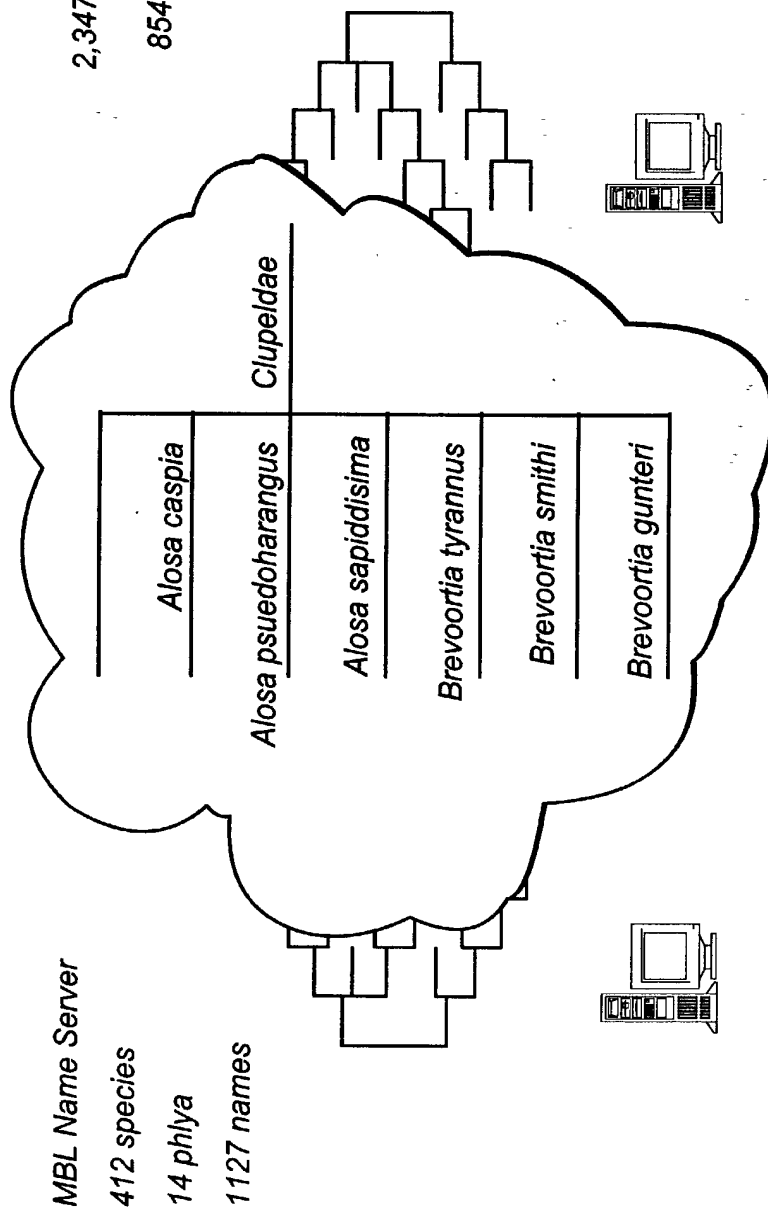


FIG. 32

Classification: ICLARM:FishBase

....SuperClass **Pisces**
.....Class **Actinopterygii**
.....Order **Clupeiformes**
.....Family **Clupeidae**
.....Genus **Brevoortia**
.....Binomen **Brevoortia tyrannus**

Names:

Atlantic menhaden (E)
Brevoortia tyrannus (L)
Clupea carolinensis (Syn)
Clupea menhaden (Syn)
Clupea neglecta (Syn)
Clupea tyrannus (Syn)

Links: *Brevoortia tyrannus*

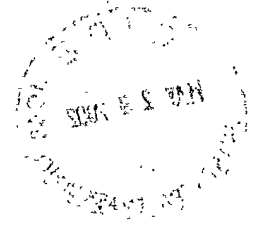
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The Flescher Slides Collection
The Biological Bulletin Citations Database
MRC Catalog of Specimens
Compendium of Eggs and Embryoes
The Teaching Charts of Rudolph Leucka?

Woods Hole Oceanographic Institution

Discovery: The Salt Marsh
Mariner Library Catalog
Oceanus Magazine: Oct 1983 Issue
JASON Project, 1997 Fisheries Worldw?
Laboratory of Dr. Peter Cummins

FIG. 33



Find

Find

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z

- Mallomonas

Marineamoeba

Markshotair

Massistena

Mastigamoeba

Mastigella

Mayorella

Melosira

Merismopedia

Mesodinium

Metacoronynympha

Metanema

Metromonas

Micrasterias

Micrachiamys

Microcometes

Microhabitat

Microscope

Mite

Mite

Monas

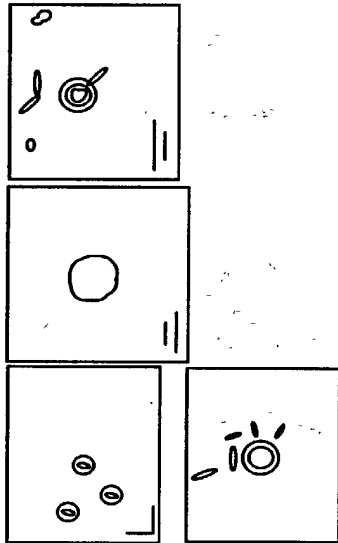
MONOCERCOMONADINAE

Mothscale

Motilebact

Motilebactdet

found 4 images matching Massisteria



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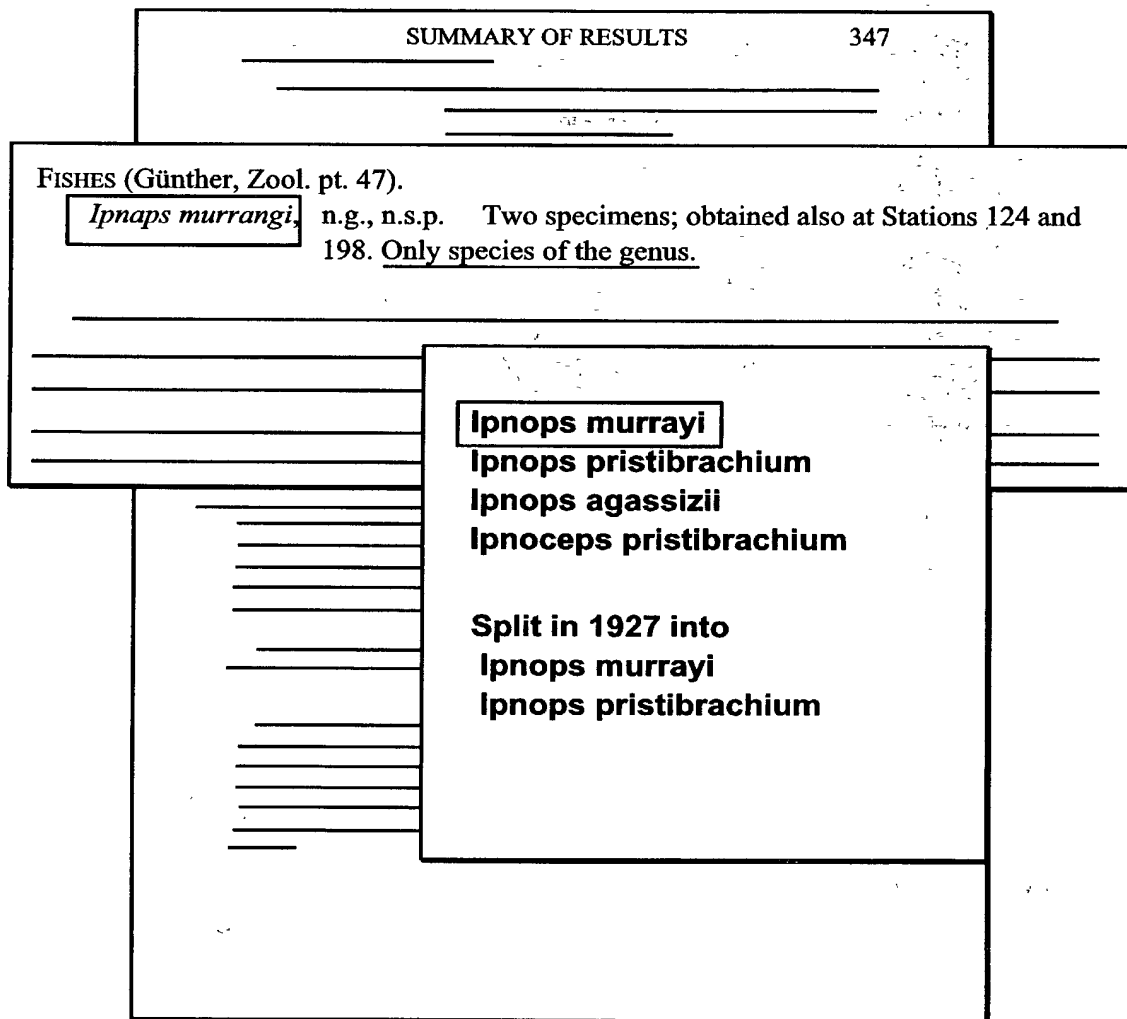


FIG. 35

dTNS (distributed Taxonomic Name Server)

Documentation

Jump to: [Vertebrates/Fish](#)
[Mammals/Birds/Reptiles](#)

Server
Numbers Name

Find

.... [Organisms \(C1\)](#)
..... [Eukaryote \(P1\)](#)
.....2 [Opisthokonts \(P2673\)](#)
.....3 [Choanoflagellates And Animals \(P2674\)](#)
..... [Metazoa \(D1\)](#)
..... [Chordata \(D1537\)](#)
..... [Vertebrata \(D1543\)](#)
..... [Gnathostomata \(D1547\)](#)
..... [Osteichthyes \(D1555\)](#)
.....Class [Actinopterygii \(F192005\)](#)
.....Order [Perciformes \(F180037\)](#)
.....Family [Pomatomidae \(F175393\)](#)
.....Genus [Pomatomus \(F103337\)](#)

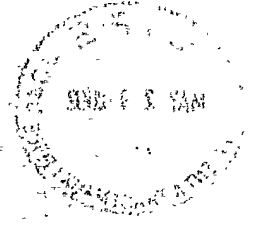
.....Binomen [Pomatomus saltator](#) [Entrez \(F364\)](#) 0

Names:

[Bluefish \(E\)](#)
[Pomatomus saltator \(L\)](#)
[Cheilodipterus heptacanthus \(Syn\)](#)

FIG. 36A

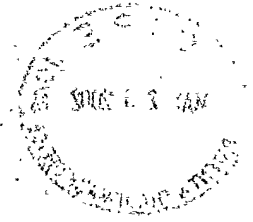
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Cheilodipterus saltatrix (Syn)
 Chromis epicurorum (Syn)
 Gasterosteus saltatrix (Syn)
 Gonenion serra (Syn)
 Lopharis mediterraneus (Syn)
 Perca lophar (Syn)
 Pomatomus pedica (Syn)
 Pomatomus saltatrix (Syn)
 Pomatomus skib (Syn)
 Scomer sypterus (Syn)
 Sparactodon nainal (Syn)
 Sypterus pallasii (Syn)
 Temnodon conidens (Syn)
 Temnodon saltator (Syn)
 Temnodon tubulus (Syn)
 Chopper (E)
 Tailor (E)
 Snapper Blue (E)
 Tassergal (FR)
 Anjova (Sp)
 Sinikala (Fi)
 Blaufisch (Gr)
 Gofári (Gk)
 Pesce serra (It)
 Amikiri (Jp)
 Anchova (Pr)

FIG. 36B

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Plitica (SC)
 Strijelka skakusa (Serb)
 Lüfer (Tk)
 Blue-fish (E)
 Anchova (Pr)
 Shad (E)
 Elf (E)
 Tekwaya (Ar)
 Tekwa (Ar)
 Tasergal (Po)
 Teleskopabborre (Sw)
 Dyphavsabbor (No)
 Enchova (Pr)
 Skipjack (E)
 Anchova de banco (Sp)
 Elwe (Af)

SQL outputs: parent/child & columns :
 Pending

 Level:

Delimiter:

Data Views:
explode

FIG. 36C

Various output formats served by the Name Server layer via a Taxonomic Name Server				
A table of all names and their qualifiers	A string containing the preferred name	A table with a specified list of taxa levels and the preferred name	The full ICZN classification with "##" as a delimiter	
tns -nq "Name/Qualifier" -t-name "Pomatomus saltatrix"	tns -pv -name "Pomatomus saltatrix" -s	tns -c,pv,l "Kingdom,Phylum,Class,Order,Family,Genus,Species" -name "Pomatomus saltatrix"	tns -c,pv,a -name "Pomatomus saltatrix" -l-##	
Name	Qualifier	Kingdom	EUKARYOTES##Living_Organisms Kingdom##	
Bluefish (E)	Pomatomus saltator	Phylum	SubKingdom##OPISTHOKONTS ParvPhylum##Metazoa	
Pomatomus saltator (L)		Class	Phylum##Chordata Subphylum ##Vertebrata	
Cheilodipterus heptacanthus (Syn)		Order	Superclass## Gnathostomata Class##Osteichthyes	
Cheilodipterus saltatrix (Syn)		Family	subClass##Actinopterygii SuperClass##Pisces	
Chromis epicurorum (Syn)		Genus	Class##Actinopterygii Order##Perciformes	

Various output formats served by the Name Server layer via a Taxonomic Name Server		
		Family##Pomatomidae Genus##Pomatomus Species##saltator
Gasterosteus saltatrix (Syn)		Species saltator or the same table with common English names tns -c,ce,l "Kingdom,Phylum,Class,Order,Family,Genus,Species" -name "Pomatomus saltatrix" -t:
Gonenion serra (Syn)		Kingdom: EUKARYOTES
Lopharis mediterraneus (Syn)		Phylum: Animals with Backbones
Perca lophar (Syn)		Class: Ray-finned Fish
Pomatomus pedica (Syn)		Order: Perches and Allies
Pomatomus saltatrix (Syn)		Family: Bluefish Family
Pomatomus skib (Syn)		Genus: Bluefish
Scomer sypterus (Syn)		Species: Bluefish
Sparactodon nalnal (Syn)		
Sypterus pallasii (Syn)		



Various output formats served by the Name Server layer via a Taxonomic Name Server			
Temnodon conidens	(Syn)		
Temnodon saltator	(Syn)		
Temnodon tubulus	(Syn)		
Chopper	(E)		
Tailor	(E)		
Snapper Blue	(E)		

FIG. 37C

ENTITYID NAME URL
 AR1001 POMATOMUS SALTATRIX HTTP://ZEUS.MBL.EDU/AD.PL?
 ZT7801 STENOBOMUYS CHRYSOPS HTTP://WWW.MBL.EDU/ANIMA

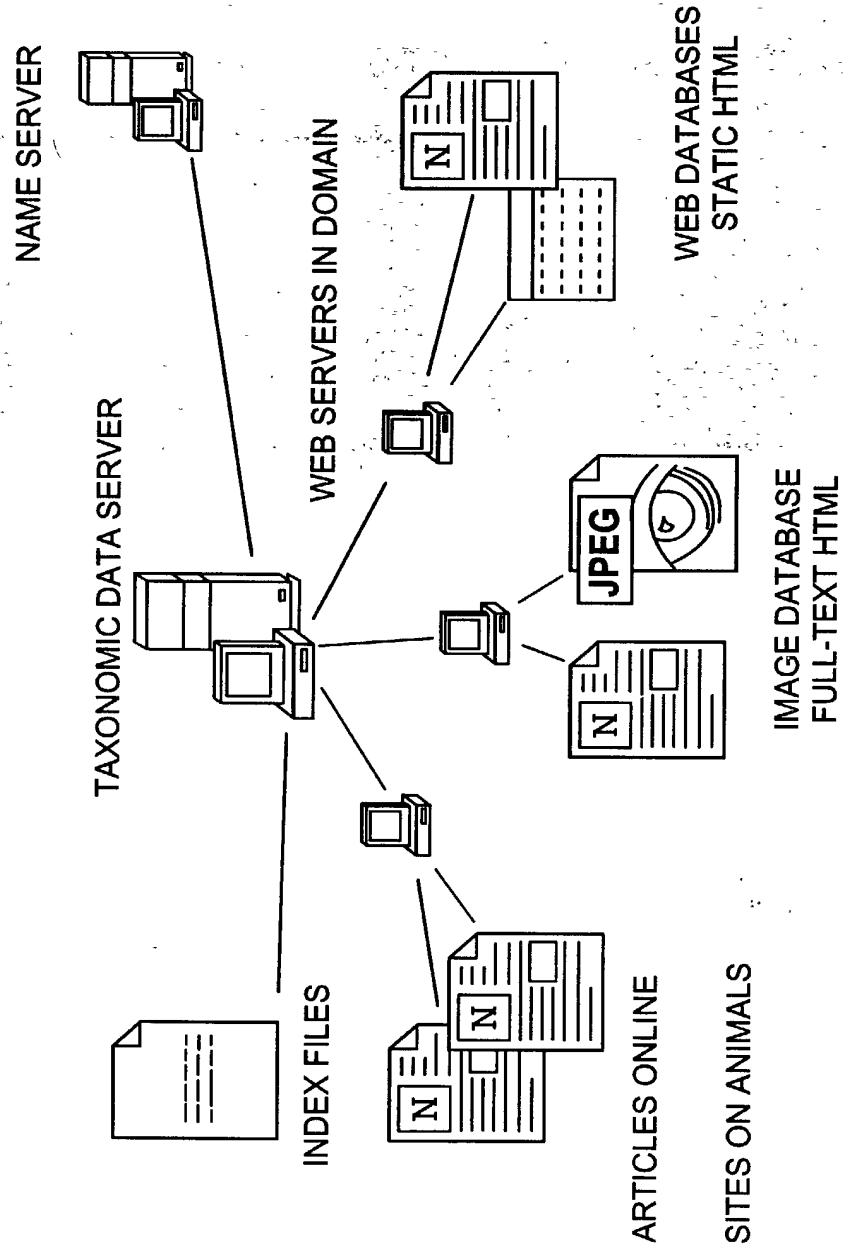


FIG. 38

RAM Fee History Query

Revenue Accounting and Management

Name/Number: 10087621

Total Records Found: 3

Start Date: Any Date

End Date: Any Date

Accounting Date	Sequence Num.	Tran Type	Fee Code	Fee Amount	Mailroom Date	Payment Method
04/18/2002	00000097	<u>1</u>	<u>632</u>	\$130.00	04/18/2002	DA 080219
06/03/2002	00000043	<u>1</u>	<u>205</u>	\$65.00	05/29/2002	DA 080219
06/05/2002	00000153	<u>1</u>	<u>581</u>	\$40.00	05/29/2002	DA 080219

101 =

103 = 19 -

102 = 120